CARCHAROCLES MEGALODON

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C. megalodon, meaning "big tooth", is an extinct species of shark that lived approximately 23 to 2.6 million years ago (MYA), during the Cenozoic Era (the early Miocene to the end of Pliocene).

Regarded as one of the largest and most powerful predators in vertebrate history, megalodon probably had a profound impact on the structure of marine communities. Fossil remains suggest that this giant shark reached a length of 18 meters (59 ft) and also indicate that it had a worldwide distribution. Scientists suggest that megalodon looked like a stockier version of today's great white shark, *Carcharodon carcharias*.

Sharks generally are opportunistic predators, but scientists propose that megalodon was "arguably the most formidable carnivore ever to have existed". Its great size, high-speed swimming capability, and powerful jaws, coupled with a formidable killing apparatus, made it a super-predator capable of consuming a wide variety of other animals. A study of minerals in the teeth of extinct and modern sharks in this class revealed that *C. megalodon* fed higher up the food chain than the modern great white shark.

Fossil evidence indicates that megalodon preyed giant sea turtles. Marine mammals were regular large bite marks (deep gashes) made by teeth teeth lying close to the chewed remains of on dolphins, both small and large whales (including sperm whales), seals, porpoises, and prey targets for *C. megalodon*. Many whale bones have been found with clear signs of that match the teeth of *C. megalodon*. Various excavations have revealed megalodon whales, and sometimes in direct association with them.



EVOLUTION

For a long time many paleontologists believed that megalodon was the ancestor of today's great white shark. The presumed close relation between the megalodon and great white is based on similarities in tooth structure, as both have saw-like edges on their teeth. This may seem like flimsy evidence, but remember that the only evidence that the megalodon lived at all are their enormous teeth, as a cartilage skeleton has never been found.

But after the discovery of a new fossil, announced in November 2012, the consensus has shifted. The new shark fossil (Carcharodon hubbelli) is far more complete - it includes several vertebrae and a full jaw with teeth intact. And it provides many points of similarity with great whites. Based on this, great white sharks are likely more closely related to make sharks and Carcharocles megalodon was the end of an evolutionary line dating back 60 million years to the early Otodus sharks.

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TEETH

It is believed megalodon had 276 teeth in 5 or 6 rows. The rows acted like a conveyor belt – lost or damaged teeth were replaced, likely within two days.

The largest known tooth is almost 7.5 inches. The tooth to the left is 6.5 inches (the ruler is in centimeters).

SIZE COMPARISON

The above silhouettes compare the size of an average modern great white, an average modern

whale shark (30 ft.) and both conservative and



MEGALODONS IN TEXAS?

Megalodon was cosmopolitan – it lived in warm seas throughout the world. Fossil teeth have been found on every continent except Antarctica. In the US they can be

found in North Carolina, where it is the state fossil, as well as a number of other states.

Texas has a wide variety of fossil shark remains from many time periods, including ancient sharks of Pennsylvanian age (323-299 MYA), numerous Cretaceous sharks (56-34 MYA), and more recent ones from the Eocene (145-65 MYA). So, why would it be incredibly unlikely to find megalodon teeth in Texas? The few formations of Miocene age (23-5.5 MYA) in Texas are not marine sediments. But note that there are a few unconfirmed reports of megalodon teeth being found on Texas Gulf beaches, supposedly washed up from offshore formations.



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